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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Manabu Yamazoe

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EXAMINER

ABDI, AMARA

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/736,498	Applicant(s) YAMAZOE, MANABU	
	Examiner AMARA ABDI	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 11, 2008 has been entered.
2. Applicant's response to the last Office Action, filed February 11, 2008 has entered and made of record.
3. In view of the Applicant arguments, the rejection of claims 1-9 under U.S.C §112, First Paragraph is expressly withdrawn.
4. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

Specification

5. The specification is objected to because it doesn't contains the limitation: "the first and second color difference" which has been added in claims 1-4, 7, and 9.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claim 1-9 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claims 1, 2, 3, 4, 7, 8, and 9, the added limitation “**first and second** color difference” does not have any support from the specification. In the specification there was mentioned about “**two** color difference”, however the “two color difference” is different from the “first and second color difference”, therefore, it is considered as a new matter.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-2, 4, and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shu (US 5,517,335) in view Hongu (US 6,757,427) and Taniuchi et al. (US 5,200,832).

(1) Regarding claims 1 and 7:

Shu discloses a color conversion method and an apparatus (column 1, line 44) of inputting at least two color difference values and obtaining a corresponding saturation value (column 1, line 44-46), comprising steps of:

creating a main lookup table (LUT1) which stores saturation value for the color difference values (variable delta) (column 6, line 32-41; and column 7, line 55-57), and sub-lookup table (LUT2) for obtaining a value corresponding to the first color difference (difference between the maximum and minimum values in steps 408 and 410) (column 6, line 43-46), for accessing the main lookup table (column 4, line 23-27, and column 10, line 19-20);

obtaining a saturation value corresponding to the two color difference values (column 5, line 64-65) by accessing the main look-up table (column 4, line 23-27, and column 10, line 19-20).

Shu does not explicitly mention the following items:

1) wherein the first color difference value is equal to or less than the second color difference value; and

2) determining an address of the main lookup table in corresponding with the two color difference differences values on the basis of the value obtained from the sub-lookup table by the first color difference value and a difference between the two color difference values.

(A) Concerning item 1):

Hongu, in analogous environment, teaches an edge enhancement preprocessing with image region determining function, where the color difference is equal to that a second color difference value of the two color difference values (column 6, line 62-65).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Hongu, where the color difference is equal to

that a second color difference value of the two color difference values, in the system of Shu in order to correct the middle color in the boundary portion between a character region and photograph region (column 6, line 3-6).

(B) Concerning item 2):

Taniuchi et al., in analogous environment, teaches a color image recording device with color edit and conversion processing, where determining an address of the main lookup table (LUT of fourth color conversion unit) in corresponding with the two color difference differences values (a^* and b^*) (Fig. 1, column 20, line 57-59) on the basis of the value obtained from the sub-lookup table (LUT of the third color conversion unit) by the first color difference value (H) (Fig. 1, column 20, line 48-50) and a difference between the two color difference values (C) (Fig. 1, column 20, line 49-50).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Taniuchi et al., where determining the address of the main lookup table, in the system of Shu in order to performing a color editing operation with amounts of a standardized color specification system to thereby set a color to be converted and a converted color with ease and high accuracy (column 4, line 7-11).

(2) Regarding claims 2 and 8:

Shu further discloses the method and an apparatus (column 1, line 44), where the main lookup table has a smaller number of entries than the number of all possible combinations of the two color difference values by utilizing symmetry of the saturation value for the color difference values (column 7, line 45-51), (it is read that by the use of

curve, the lookup table will have a smaller number of entries than the number of all possible combinations of the two color difference values, since the curve is symmetric and representing the saturation value and approaching zero in either extreme).

(3) Regarding claim 4:

Shu discloses a lookup table for obtaining an output value defined for an input value (column 6, line 12-13), comprising:

a main lookup table (LUT1) adapted to, when a definition of an output value has or is regarded to have symmetry (column 7, line 45-51) for a plurality of input values (column 8, line 36), (it is read that the plurality of pixels have a plurality of input values).

A sub-lookup table (LUT2) (column 6, line 43-46)

Shu does not explicitly mention the following items:

1) the storing of an address of an entry in which a first input value and a second input value of the plurality of input values are the same; and

2) wherein the address of the main lookup table is determined on the basis of an address obtained from the sub-lookup table by the first input value being equal or less than the second input value of two arbitrary input values and a difference between the first and second input values, in corresponding with the two arbitrary input values.

(A) Concerning item 1):

kaye et al., in analogous environment, teaches a processing for color video signals, where sub-lookup table is adapted to store an address of an entry (column 10, line 34-37) in which a first input value and the second input value of the plurality of input values are the same (column 5, line 57-59), (the addressing by unique pairs of

values corresponding to the incoming R-Y and B-Y is read as the same concept as the two color difference values are the same).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of kaye et al., where storing the address of the entries in lookup table, in the system of Shu in order to maintain the composite signal within the pre-defined limits while still insuring that any processing of the color video signals is carried through with a minimum of change to the luminance, hue or saturation of the resulting composite signal (column 1, line 54-62).

(B) Concerning item 2):

Taniuchi et al., in analogous environment, teaches a color image recording device with color edit and conversion processing, where the address of the main lookup table (the fourth color conversion unit) is determined on the basis of an address obtained from the sub-lookup table (the third color conversion unit) (column 4, line 51-64), (the output of the third color conversion is an input of the fourth conversion unit) , by the first input value (brightness signal V) being equal or less than the second input value (brightness signal L*) of two arbitrary input values (column 4, line 63-64) and a difference between the first and second input values, in corresponding with the two arbitrary input values (C) (Fig. 1, column 20, line 49-50).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Taniuchi et al., where the address of the main lookup table is determined on the basis of the address of the sub-lookup table, in the system of Shu in order to performing a color editing operation with amounts of a

standardized color specification system to thereby set a color to be converted and a converted color with ease and high accuracy (column 4, line 7-11).

10. Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shu, Hongu and Taniuchi et al., as applied to claims 1 and 7 above, and further in view of Kaye et al. (US 5,089,882).

Shu, Hongu and Taniuchi et al. disclose all the subject matter as described in claims 1 and 7 above.

Shu, Hongu and Taniuchi et al. do not explicitly mention the storing of an address in lookup table of the entry in which the two color difference values are the same.

kaye et al., in analogous environment, teaches a processing for color video signals, where storing the address in lookup table of the entry (column 10, line 34-37) in which the tow color difference values are the same (column 5, line 57-59), (the addressing by unique pairs of values corresponding to the incoming R-Y and B-Y is read as the same concept as the tow color difference values are the same).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of kaye et al., where storing the address of the entries in lookup table, in the system of Shu in order to maintain the composite signal within the pre-defined limits while still insuring that any processing of the color video signals is carried through with a minimum of change to the luminance, hue of saturation of the resulting composite signal (column 1, line 54-62).

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11. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shu, Hongu and Taniuchi et al., as applied to claim 4 above, and further in view of Metcalfe (US 5,809,181).

Shu, Hongu and Taniuchi et al. disclose all the subject matter as described in claim 4 above.

Shu, Hongu and Taniuchi et al. do not explicitly mention the

Shu, Kaye et al., and Hongu do not explicitly mention the system, where the specific condition includes a color space

Metcalfe, in analogous environment, teaches a color conversion apparatus, where the color conversion is loaded with appropriate output color space primary color lookup table (column 6, line 11-13).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Metcalfe, where lookup table includes a color space, in the system of Shu in order to minimize the storage requirements. For example, assuming that each primary color has 256 (8-bits) possible levels of input, a lookup table for every combination of R, G, and B would require 16 Mbytes (256x256x256) for each of the CMY and K pass. A large lookup table can be simulated by interpolating between eight points forming a cube around the R, G, B position derived from the non-uniform color space conversion interval (column 6, line 22-28).

12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shu, Hongu, Taniuchi et al., and Metcalfe, as applied to claim 5 above, and further in view of

Suzuki (US 6,650,336).

Shu, Hongu, Taniuchi et al., and Metcalfe disclose all the subject matter as described in claim 5 above.

Shu, Hongu, Taniuchi et al., and Metcalfe do not explicitly mention the system, where the output value includes saturation in a color space determined in advance.

Suzuki, in analogous environment, teaches a color conversion device and a method capable of improving color reproduction, where the output value includes saturation in color space, which is determined based on three-dimensional lookup table (column 3, line 34-40).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Suzuki, where the output value includes saturation value in color space, in the system of Shu in order to provide a color conversion device determining the saturation level of input image data which is in term referred to change an interpolation method to another to improve color reproduction (column 3, line 50-53).

Contact Information:

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMARA ABDI whose telephone number is (571)270-1670. The examiner can normally be reached on Monday through Friday 8:00 Am to 4:00 PM E.T..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wu Jingge can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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